

SUMMARY

Vaping popularity have been increased since a Chinese pharmacist Hon Lik first developed a substitution for traditional cigarettes, an electronic alternative cigarettes called *Vaporizer*, first entered the U.S market in 2007. Vaping are becoming an alternative choice for many smoker because of their appearance , sense , and flavor compared to traditional cigarettes. Both of e-cigarette and conventional cigarette delivers nicotine aside from nicotine , propylene glycol and glycerin are the basic ingredients of the solution that vaporizer device use to make the aerosol. There was also increasing of vape user among the students in Airlangga University Faculty of Medicine, and it was increasing by time, and that is one of the reason, why this research is arranged.

The type of design used in this research is quasi experimental where every subject will be their own control. Observation of the result variable will be done before and after the treatment. The population and sample of this research are from medical students of Airlangga University Faculty of Medicine, where the subject is a vape user. Total sampling was used to determine the amount of the sample . This research is using pulse oximetry as the tool to measure the oxygen saturation level (SpO₂). Oxygen saturation will be measured before and after the subject vape for a short time. Extra data is also observed including pulse rate and blood pressure. Pulse rate was measured also using pulse oximetry, while the blood pressure was measured using mechanical sphygmomanometer. The data then analysed using SPSS and presented in tables.

This research found that there was a decrease on SpO₂ level after vaping in a short time, after statistically analysed with the p value 0.019 meaning that there was a significant change. While in medical view small change of value does not always give a meaningful effect. And there was also an increase of pulse rate and blood pressure, the p value for pulse rate is 0.042 meaning that there was a significant change. For the blood pressure there was significant change for the systolic pressure with the p value 0.001, while there was no change in the diastolic pressure with the p value 0.108.

This research conclude that , vaping in a short time could give acute effect on SpO₂ level and also on pulse rate and blood pressure. It have possibility to give an adverse effect to health, though not always a significant change by statistical result have a meaningful interpretation in medical point of view. Further research regarding vape need to be established for a better understanding.

ABSTRACT

ACUTE EFFECT OF VAPING ON OXYGEN SATURATION LEVEL

Background : Vaping popularity have been increased worldwide. It have become an alternative choice for smoker that wanted to stop. Vape have similarity with conventional tobacco smoke, where vape delivers nicotine, but without the other substance that conventional tobacco smoke have. The effect of vaping towards health is still not yet clear, that is why further research need to be done.

Purpose : To determine the effect of vaping on oxygen saturation level.

Method : This research using a quasi experimental method. The subject will be their own control of experiment. This research collect sample from medical students of Airlangga University Faculty of Medicine that is a vape user.

Result : Decreased level of SpO₂ was noted after subject using vape for a short time with the p value 0.019. Increase of pulse rate and blood pressure also noted after subject using vape for a short time with the p value of systole 0.001 and diastole 0.108.

Conclusion : Vaping have an acute effect to SpO₂ level, pulse rate, and blood pressure, where it decrease SpO₂ level, and increase the pulse rate and blood pressure. It may have adverse effect to the health, so further study should be done for a better understanding.

Keywords : E-cigarette, vape, acute effect of vaping, oxygen saturation, nicotine